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Mesh repair of a large ventral hernia with interposition of omentum in a calf

This is a pre print version of the following article:

Original Citation:

Availability:

This version is available <http://hdl.handle.net/2318/1570480> since 2016-06-22T15:03:28Z

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Title: Mesh repair of a large ventral hernia with interposition of omentum in a calf

Introduction: Ventral and incisional hernias are common surgical problems in large animals. Ventral hernias may occur from midline or paramedian incision, trauma or for abomasal fistulization. Synthetic materials are used for the repair of abdominal wall defects, but some types carry a high risk of adhesions if placed intraperitoneally. In this work we report the effectiveness of placing the omentum as a protective layer in the repair of a mesh hernia repair in a calf.

Case description: A one month-old Piedmontese, female calf, weighting 60 kg was referred for evaluation and repair of a ventral hernia. A defect extending from 3 cm caudal to the umbilicus down to the pubis was diagnosed and surgical repair was elected. A 20 cm Y-shaped midline incision starting caudal to the umbilicus was performed in the skin to preserve the integrity of the mammary glands. The defect extended caudally to the pelvis, without enough abdominal wall tissue to safely anchor sutures under tension. For these reasons a tension free mesh implantation was considered. The omentum was reached and brought caudally to cover the viscera down to the pelvis. It was secured to the edges of the defect with nylon sutures. A 17 x 10 cm polypropylene mesh was cut in the shape of the defect and then prepared applying a number of sutures with USP 1 nylon around its perimeter. The mesh was then delivered into the abdomen and placed in correspondence of the defect, intraperitoneally and in contact with the omentum. The sutures were then passed through the margins of the hernia from inside to outside with removable needles. Care was taken to apply the mesh without tension and wrinkles. The nylon sutures were then tied. Skin in excess was trimmed, and the remaining sutured to cover the mesh. Recovery from sedation was uneventful and no postoperative complications or signs of pain were detected. Follow-up was obtained four months after discharge. No complications were noted and normal increase in weight was reported.

Discussion: Typically, large ventral hernias have depletion of muscular and fascial tissues. Polypropylene mesh is one of the most commonly used prosthetic material for large ventral hernia repair in large animals. If placed intraperitoneally, adhesion of abdominal contents to the mesh, irritation of intestine and subsequent rupture of a bowel, may occur. This could be avoided by extraperitoneal implantation of the mesh whenever it is possible. The interposition of omentum between the mesh and underlying intestine has been proposed as a protective measure. To the best of our knowledge, this is the first successful report of a ventral hernia repair with the interposition of the omentum between the viscera and the mesh in large animals.